



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,104	08/26/2003	Howard Lee Tigelaar	TI-35614	6426
23494	7590	12/03/2004	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			QUINTO, KEVIN V	
			ART UNIT	PAPER NUMBER
			2826	

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/650,104	Applicant(s) TIGELAAR, HOWARD LEE	
	Examiner Kevin Quinto	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-11 and 18-22 is/are allowed.
- 6) ☒ Claim(s) 1,2,12 and 13 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 14-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al. (USPN 5,747,852).
4. In reference to claims 1 and 12, Chang et al. (USPN 5,747,852, hereinafter referred to as the "Chang" reference) discloses a similar device and its method of fabrication. Figures 2a-2m illustrate the fabrication process of a MOS transistor (210 or 260) with a gate structure (212 or 262) formed over a semiconductor (214 or 264). There are source and drain regions (220 or 270) formed in the semiconductor (214 or 264). There are source and drain

extensions (216 or 266) formed in the semiconductor adjacent to the gate structure (212 or 262) and positioned between the gate structure (212 or 262) and the source and drain regions (220 or 270). There are first silicide regions (290) formed on the drain and source extension regions (216 or 266).

5. Claims 1, 2, 12, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Ligon (USPN 6,630,721 B1).

6. In reference to claims 1 and 12, Ligon (USPN 6,630,721 B1) discloses a similar device and its method of fabrication. Figures 2-8 illustrate the fabrication process of a MOS transistor with a gate structure (36) formed over a semiconductor (34). There are source and drain regions (60) formed in the semiconductor (34). There are source and drain extensions (40) formed in the semiconductor adjacent to the gate structure (36) and positioned between the gate structure (36) and the source and drain regions (60). There are first silicide regions (54) formed on the drain and source extension regions (40). Figure 11 illustrates a MOS transistor with a gate structure (36) formed over a semiconductor (34). There are source and drain regions (60) formed in the semiconductor (34). There are source and drain extensions (40) formed in the semiconductor adjacent to the gate structure (36) and positioned between the gate structure (36) and the source and drain regions (60). There are first silicide regions (54) formed on the drain and source extension regions (40). The process to fabricate this device inherently meets claim 12.

7. With regard to claims 2 and 13, figure 11 of Ligon shows sidewall structures (56) that are adjacent to the gate structure (36) and are over the first metal silicide layers (54).

Allowable Subject Matter

8. Claims 7-11 and 18-22 are allowed.

9. Claims 3-6 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the examiner is unaware of any prior art which suggests a MOS transistor with a semiconductor layer on its source and drain regions while a metal silicide layer is on its drain and source extension regions which are beneath sidewall structures of the gate electrode.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quinto whose telephone number is (571) 272-1920. The examiner can normally be reached on M-F 8AM-5PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number: 10/650,104
Art Unit: 2826

Page 5

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KVQ


NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800